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# OW2 Scarbo

## Going BPM on SCA



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OW2 Conference '09



- Open Wide - Open Source Solution Integrator
  - Portal – ECM - BI, ~ 90 employees (Paris, Lyon)
  - On the (Open Source) R&D side :
    - Eclipse (JWT - Java Workflow Tooling, STP), OW2 (Scarbo, Bonita, FraSCAti, PEtALS), ESB Initiative, Nosica...
    - Public funded research projects, industrial (Talend, EBM WebSourcing, Bull, Obeo) and academic partners (INRIA, INT)
- Marc Dutoo - Open Source Architect
  - SOA, BPM, ECM expert
  - Consulting, projects, research, training...
  - Head of Open Wide R&D Dept



## Overview



- OW2 Scarbo : Business Processes for SCA
  - Putting your SOA to good use thanks to Business Processes, in a technology-agnostic manner
- Plan
  - BPs to exploit SOA Agility
  - SCA and BPs, orchestration, workflows...
  - Scarbo in a few words
  - Architecture
  - Demonstration





## SCA track : And now what ?

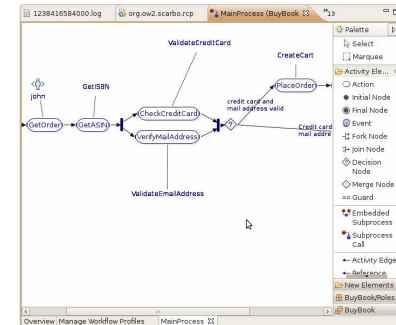


- We've already seen SCA...
  - Infrastructure, both native and ESB integrated
  - Tooling
  - Deployment, management, methodology...
  
- Now we're going higher : at the business level
  - Because if (SCA-defined) SOA provides flexibility, it is for the sake of better answering business needs !
  - Answering them first implies analysing and defining their processes / activities / task list / ... that's **Business Process Management !**



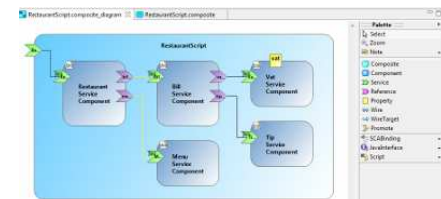
- **BPM**

- Brings : top-down design (business representation) and implementation, task management and service orchestration
- Issues : « BPM Babel tower » (paradigms, standards, implementations, tools), coupled with the Information System



- **SOA**

- Brings : managed loose coupling
  - SCA as technology-agnostic standard for defining SOA
- Issues : too complex and technical for business users



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- Business processes are about « doing things » in a well-defined manner...
    - For the business use, it is interacting with integrated business applications : that's workflows !
      - i.e. oriented graph of tasks and human interactions, outside of SOA and SCA, therefore complementary
    - For the SOA layer, it is calling these application's business services : that's orchestration !
      - And SCA makes for a standard, technology-agnostic way of decoupling the BP layer and the SOA layer
      - NB. There are many ways of orchestrating services, down to the infrastructure level : BPEL, script, Java, and including SCA impls.



- **BPM empowers SOA**
  - Business process representations hides the complexity of SOA to business users
  - Thanks to top-down tooling, task management and service orchestration, BPM is the ultimate swiss knife for SOAs
- **SOA protects BPM**
  - Against Information System evolutions, thanks to SOA governance
  - And protects the Information System against heavy coupling from BPM, thanks to SOA acting as a « protective shell » over the Information System



# Solving the BPM Babel Tower issue : Technology-agnostic BPM



- Eclipse JWT (Java Workflow Tooling)



- By the University of Augsburg, Open Wide, Bull, jBoss, Obeo...
- Since 2006, distributed in the upcoming Eclipse 3.5 (Galileo)
- Workflow Editor : customisable views, extensible model (EMF Aspects)
- Transformations : compatibility with BP formats (BPMN), export to executable languages (XPDL), interoperability (STP IM)

- The Process Virtual Machine



- Business process engine framework by jBoss & Bull
- Can support any BP language, semantics and transversal features through plugins ; basis for jBPM & Nova Bonita





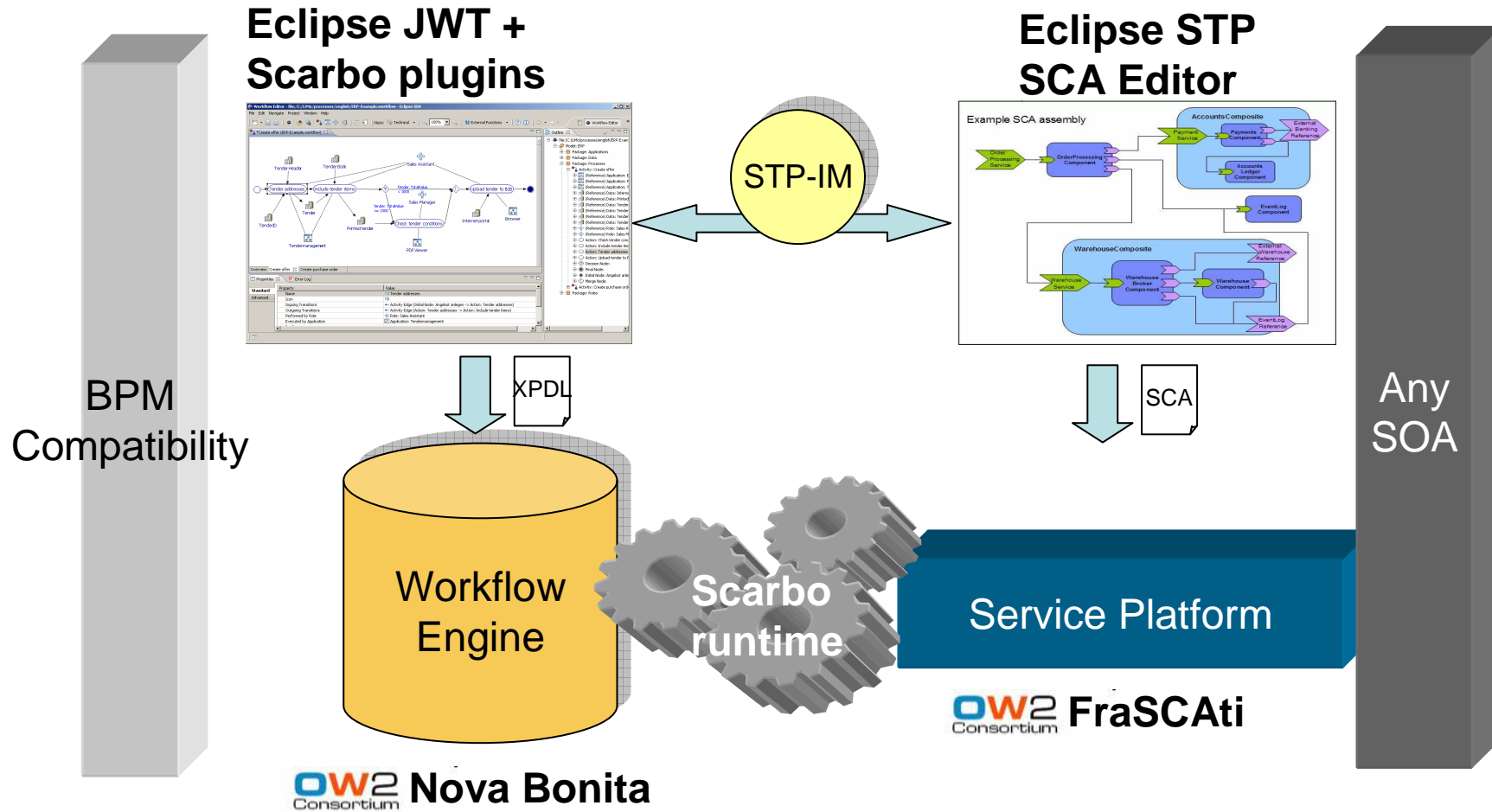


# Introducing OW2 Scarbo



- What is OW2 Scarbo ?
  - An open, SOA ready, SCA powered BPM solution built on OW2 and Eclipse
    - implements the « JWT for SOA » vision on top of OW2 components
- What can Scarbo do for you ?
  - Scarbo lets you design, implement and execute business processes on top of your service-oriented architecture
  - In a technology-agnostic manner !
    - Thanks to the JWT ecosystem on the BPM side
    - And to SCA / FraSCAti on the SOA side





- Design : in JWT Workflow Editor and its Scarbo extensions,
  - Draft processes in the JWT high-level business view, or import from a compatible representation format (BPMN...)
  - Design tasks calling WS, RMI or SCA services in the JWT technical view
    - WSDL introspection, parameter mapping, SCA file drag and drop...
  - Develop
    - interactively in the SOA space with other STP-IM integrated editors
    - with other JWT-compatible editors
  - Use semantic service annotation and resolution to create business process templates that are independent of the deployment context

- Deployment
  - Export to a Nova-Bonita deployable, all-included process archive
- Runtime
  - Let FraSCAti execute your designed service calls : WS (by CXF), RMI...
  - Monitor the state of the Nova Bonita workflow engine using the Process execution monitoring JWT WAM plugin
  - Use the Nova Bonita web console to do tasks, fill process information or manage business processes
  - Let your applications call the SCA-exposed WorkflowService to manage business processes programmatically

- And more !
  - Tutorial, documentation, demonstrators
  - Interoperable JWT and SOA Eclipse Tools Platform development
    - JWT : BPEL generation through AgilPro
    - STP : STP-IM generation to BPEL and JBI through OW2 Spagic
  - Scripting (upcoming)
  - Flexible databinding
  - Complex types
  - Workflow events (upcoming)...



# Architecture of « JWT for SOA » vision



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- JWT Workflow Editor, model, transformations plugins
    - & Metamodel extension packaging and runtime access
  - JWT Runtime - Task Engine Framework API
    - Engine API – decouples from the BPM engine
    - Service API – decouples from the service engine
    - ProcessModel API – decouples from the BP format
    - Utils
  - JWT Runtime – Workflow Administration API





# Scarbo components



- Scarbo architecture

- an implementation of the JWT Runtime Task Engine Framework's Engine API on top of the OW2 Nova Bonita workflow engine
- an implementation of the JWT Runtime Task Engine Framework's Service API on top of OW2 FraSCAti.
  - From there, there are many ways Scarbo can work with other service platforms, be it through simple web services, SCA services, or even other JWT TEF implementations
- a portable integration of the OW2 FraSCAti open SCA implementation in the OW2 Nova Bonita workflow engine
  - comprising flexible SCA definition generation, databinding...

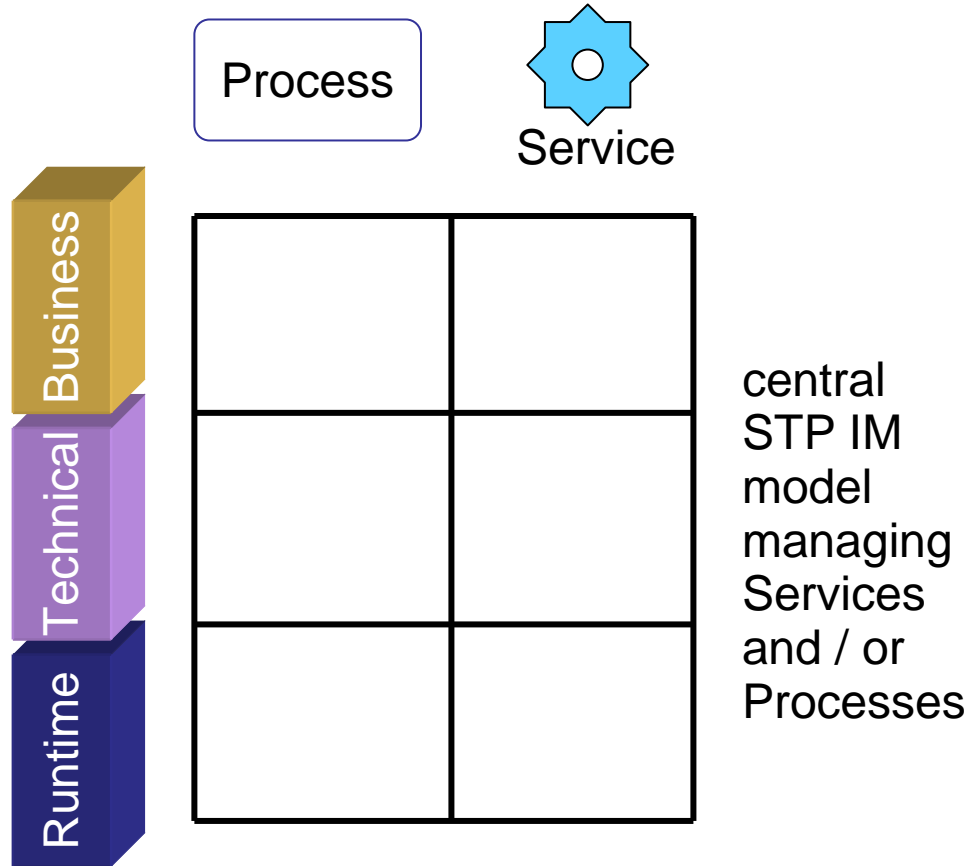


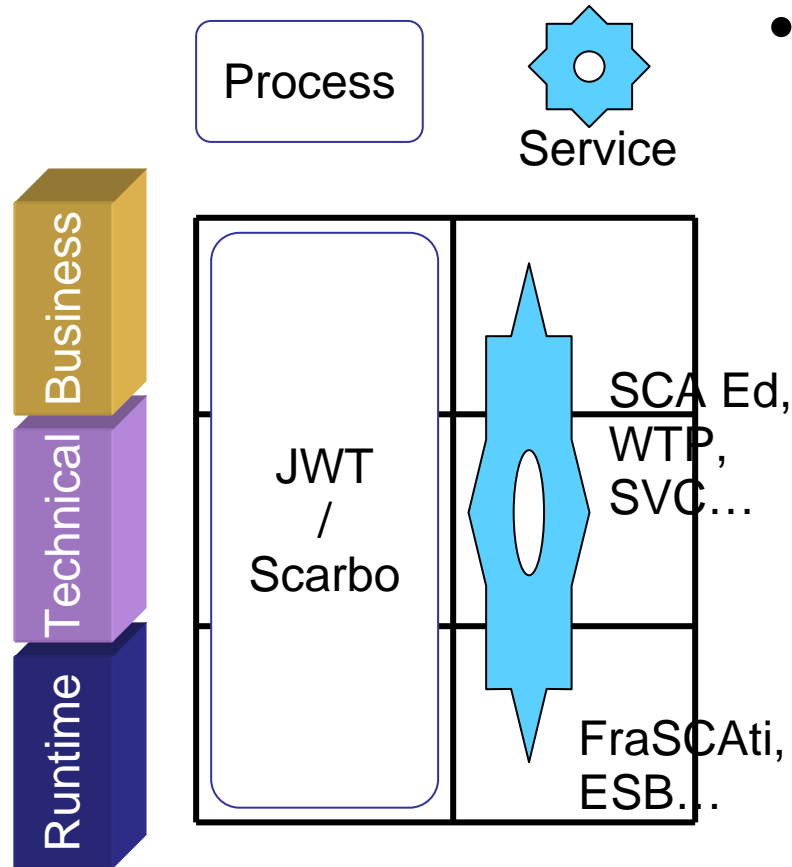
- Buying a book : a workflow process that
  - Checks the ISBN (book id) using WS
  - Checks the credit card using WS
  - Finds the book at Amazon's
  - Fills your cart and lets you pay
  
- Also
  - Screencast available at <http://wiki.scarbo.ow2.org/xwiki/bin/download/Main/EclipseCon2009Demonstrator/EclipseCon09Example.swf> , courtesy of Florian Lautenbacher and Christian Saad of the University of Augsburg





# SOA-aware BPM tooling with STP IM - introduction





- JWT Workflows on top of STP-IM managed services
  - Services are designed (by SCA Ed...) and published to STP IM
  - JWT designs and implements processes calling them
  - Changes in service design are propagated to JWT through STP IM



# SOA-aware BPM tooling with STP IM - use case with SCA Ed.



- A central STP IM model is used by SOA tools
- SCA Editor
  - Designs and assembles services in SCA composites
  - Syncs with STP IM model to publish in it those services
- JWT WE
  - syncs to create corresponding services applications
  - Uses them to design processes calling them
- Later
  - SCA Ed. Publishes changes in service design
  - JWT WE syncs its service applications, new ones are created, deleted ones are flagged by warnings





## Scarbo events



- Scarbo Events

- ICT '08 : prototype
- OW2 TechDays : introduction
- Eclipse Con 2009 : demonstration
- OW2 Conference 2009 : presentation

- More Scarbo Roadmap

- Submitted in January, approved in March 2009
- 0.9 : April 1st
- 1.0 : April 30th





## Conclusion



- A presentation of OW2 Scarbo
  - Technology-agnostic BPM for SOA, thanks to JWT, PVM and SCA
  - Brand new but already ready to use !
- Featured
  - OW2 Scarbo <http://scarbo.ow2.org>
  - OW2 NovaBonita <http://bonita.ow2.org>
  - OW2 FraSCAti <http://FraSCAti.ow2.org>
  - Eclipse Java Workflow Tooling <http://www.eclipse.org/jwt>
  - Eclipse SOA Tools Project <http://www.eclipse.org/stp>





# Thanks for our attention !



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- Questions ?
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  - About Scarbo
    - Team
      - Open Wide : Mickaël Istria, Guillaume Decarnin, Marc Dutoo
      - Also contributions and help from INT, Obeo, EBM WebSourcing
    - Sponsors
      - Agence Nationale de la Recherche (SCOrWare project)
    - Website
      - <http://scarbo.ow2.org>

